## Amendments to the Claims

1-5 (Canceled)

6. (Previously Presented) A method for semiconductor wafer fabrication, the method comprising:

incorporating a reactant gas that is capable of reacting with a material on the surface of a wafer into a liquid solvent that is inert to the material on the surface of the wafer to provide a reactant mixture;

forming a film of the reactant mixture on the surface of the wafer so that the reactant gas is transported through the film of reactant mixture to the surface of the wafer and reacts with the material thereon; and

cooling the wafer to a temperature equal to or less than about a dew point of the liquid solvent in the reactant mixture to facilitate the formation of the film of the reactant mixture on the surface of the wafer.

7. (Previously Presented) The method of claim 6, wherein the reactant gas is inert with respect to the liquid solvent.

8. (Original) The method of claim 6, wherein the thin film of the reactant mixture has a thickness of from about 1 micron to about 100 microns.

9. (Previously Presented) The method of claim 6, further including flowing the reactant gas over the thin film of the reactant mixture such that some of the flowing reactant gas is transported through the film to the surface of the wafer.

11. (Original) A method for removing a material from a surface of a semiconductor wafer, the method comprising:

selecting a reactant gas capable of reacting with a material on a wafer surface;

condensing a liquid solvent onto a surface of the wafer from which material is to be removed, the liquid solvent being inert to the material on the wafer surface; and

exposing the condensed liquid solvent to the reactant gas, the reactant gas being inert to the solvent and reacting with the material on the wafer surface to remove such material.

12. (Previously Presented) The method of claim 11, further including incorporating reactant gas into the liquid solvent to form a liquid solvent that comprises a reactant mixture that contains reactant gas, and wherein the step of condensing the liquid solvent comprises condensing the reactant mixture on a surface of the wafer such that the reactant gas reacts with and removes the material on the wafer surface.

13. (Previously Presented) The method of claim 11, further including removing the reactant mixture from the wafer surface.

14. (Original) A method for semiconductor wafer fabrication, the method comprising:

vaporizing a liquid solvent that is inert to a material on a surface of a wafer;

selecting a reactant gas that is capable of chemically reacting with the material on the surface of the wafer;

incorporating the reactant gas into the vaporized liquid solvent; and

condensing the vaporized solvent incorporating the reactant gas to form a film on the surface of the wafer so that the reactant gas is transported through the film to the material on the surface of the wafer.

15. (Previously Presented) The method of claim 14, further including flowing the reactant gas over the film such that some of the flowing reactant gas is transported through the film to the surface of the wafer and cooling the vaporized liquid solvent to facilitate condensation of the vaporized liquid solvent on the surface of the wafer.

16. (Previously Presented) A method for semiconductor wafer fabrication, the method comprising:

selecting a liquid solvent that is inert to a material on a surface of a wafer;

forming a mist of liquid solvent droplets above the surface of the wafer;

selecting a reactant gas that is capable of chemically reacting with the material on the surface of the wafer and exposing the reactant gas to the liquid solvent droplets;

forming, on the surface of the wafer, a film of the liquid solvent and exposing the film to the reactant gas so that the reactant gas is transported through the film to the material on the surface of the wafer; and

cooling the wafer to a temperature equal to or less than about a dew point of the liquid solvent.

17. (Canceled)

18. (Original) The method of claim 16, wherein only one reactant gas is used.

19. (Previously Presented) The method of claim 16, wherein the film has a thickness of from about 1 micron to about 100 microns.

20-25 (Canceled)

26. (Previously Presented) A method of semiconductor fabrication, the method comprising:

selecting a liquid solvent that is inert to a material on a surface of a wafer;

selecting a reactant gas that is capable of chemically reacting with the material on the surface of the wafer and incorporating the reactant gas into the liquid solvent;

showering the liquid solvent incorporating the reactant gas onto the surface of the wafer and exposing the liquid solvent to the reactant gas so that the reactant gas chemically reacts with the material on the surface of the wafer; and

controlling the temperature at or near the surface of the wafer so that the temperature at or near the surface of the wafer is less than the temperature of the showering liquid solvent.

27. (Currently Amended) ~~A~~ The method according to claim 26, wherein the exposing step comprises exposing a film of the liquid solvent to the reactant gas while the film is on the wafer surface.

28. (Original) The method of claim 26, wherein the wafer is at a temperature equal to about 25 °C and the liquid solvent is at a temperature equal to about 90 °C.

29. (Original) The method of claim 26, wherein the wafer is supported in a vertical position relative to the shower of liquid solvent.

30-31 (Canceled)

32. (Previously Presented) A method for removing photoresist material from a semiconductor wafer, the method comprising:

selecting a liquid that does not chemically react with photoresist material;

cooling the wafer;

forming a layer of the liquid on a surface of the wafer having photoresist material thereon;

introducing ozone gas over the layer of liquid such that some of the flowing ozone gas is transported through the layer of liquid to the surface of the wafer; and

reacting the ozone gas transported to the surface of the wafer with the photoresist material on the wafer surface.

33. (Original) The method of claim 32, wherein the ozone gas is introduced prior to the formation of the layer of liquid.

34. (Original) The method of claim 32, wherein the ozone gas is introduced simultaneously with the formation of the layer of liquid.

35. (Original) The method of claim 32, wherein the ozone gas is introduced after the formation of the liquid layer.

36. (Original) The method of claim 32 in which the liquid layer is less than about 100 microns thick over the majority of the wafer surface containing the liquid layer.

37. (Previously Presented) A method for removing photoresist material from the surface of the wafer, the method comprising:

vaporizing a mixture of water and ozone gas;

condensing a layer of the mixture on a wafer surface having photoresist material thereon; and

reacting the ozone gas in the mixture with the photoresist material on the wafer surface to remove the photoresist material therefrom.

38-46 (Canceled)

47. (New) The method of claim 1, wherein cooling the wafer comprises controlling the temperature of the wafer with a temperature controller such that the temperature of the wafer is equal to or less than about the dew point of the liquid solvent.

48. (New) The method of claim 1, wherein cooling the wafer comprises maintaining the temperature of the wafer at a temperature equal to or less than about the dew point of the liquid solvent as the film of the reactant gas mixture is formed on the wafer surface.

49. (New) The method of claim 11, further comprising cooling the wafer with a temperature controller to a temperature equal to or less than about a dew point of the liquid solvent to facilitate condensing of the liquid solvent on the wafer surface.

50. (New) The method of claim 11, further comprising maintaining the temperature of the wafer at a temperature less than about the dew point of the liquid solvent as the liquid solvent is condensed on the wafer surface.